

REMARKS

Claims 1-10 are pending and rejected in the present application. Claims 1, 5, and 7 are amended hereby, and claim 11 is added hereby.

In response to the objection to the Figs. 7-9 on the basis that they require the addition of a legend, such as --Prior Art--, Applicants have submitted 5 contemporaneously herewith replacement sheets for Figs. 7-9 that include the legend proposed by the Examiner, for which courtesy the Examiner is thanked.

Claims 1, 5 and 7 are amended hereby to remove therefrom informalities that will upon examination be apparent to the Examiner.

Claims 1-10 were rejected under 35 U.S.C. §103(a) as being unpatentable 10 over U.S. Patent No. 5,644,330 (Catchpole, et al.) in view of U.S. Patent No. 6,388,650 (Maltese). Responsive thereto, Applicants respectfully traverse.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Applicants submit that the cited references 15 fail to disclose or suggest, alone or in combination, all the limitations of claim 1 and that therefore a *prima facie* case of obviousness has not been established.

Claim 1 recites in part "means for switching between a first and a second fixed voltage . . . voltage divider means responsive to the first and second fixed voltages for providing one of two selectable voltages for each column and one of 20 two selectable voltages for each row" and "means for applying the selected fixed

voltage to the voltage divider for causing the voltage divider means to provide one of the two selectable voltages for a column and one of the two selectable voltages for a row". (*Emphasis Added*). Applicants submit that such structure is not disclosed or suggested by the cited references, alone or in combination, and

5 that therefore a *prima facie* case of obviousness has not been established.

Catchpole, et al., disclose a method of driving a display device by applying alternating current (AC) row and column signals that are either in-phase or out-of-phase to thereby place a pixel in either a non-reflecting state or in a reflecting state, respectively. (*column 4, lines 50-55*). Catchpole, et al., do not disclose a

10 means for switching between a first and second fixed voltage, nor do Catchpole, et al., disclose a voltage divider that is responsive to a selected one of the first or second fixed voltage, and nor do Catchpole, et al., disclose means for applying the fixed voltage to the voltage divider to thereby drive the display/pixel with a voltage derived from the first or second fixed voltage. More generally, Catchpole,

15 et al., disclose no display drive circuitry whatsoever. Thus, Catchpole, et al., fail to disclose or suggest means for switching between a first and a second fixed voltage, voltage divider means responsive to the first and second fixed voltages for providing one of two selectable voltages for each column and one of two selectable voltages for each row, and means for applying the selected fixed

20 voltage to the voltage divider, as recited in part by claim 1.

Maltese discloses only that intermediate levels for row and column drive voltages can be derived by means of a voltage divider. (*column 9, lines 35-47*). Maltese does not disclose a means for switching between a first and a second fixed voltage for supply to the voltage divider. Nor does Maltese disclose or 5 suggest that the voltage divider means is responsive to the selected first and second fixed voltages. Maltese also does not disclose or suggest means for applying the selected one of two fixed voltages to the voltage divider. More generally, Maltese simply does not disclose any display drive circuitry whatsoever. Thus, Maltese fails to disclose or suggest means for switching 10 between a first and a second fixed voltage, voltage divider means responsive to the first and second fixed voltages for providing one of two selectable voltages for each column and one of two selectable voltages for each row, and means for applying the selected fixed voltage to the voltage divider, as recited in part by claim 1.

15 Maltese does mention a voltage divider (see *column 9, line 46*). However, Maltese discloses using the divider in a manner different from the invention. Maltese states there are two supply voltages and each has a voltage divider to further provide two more voltages. As such, Maltese has four fixed voltages in contrast to the two fixed voltages of the claims.

20 Since the cited references, alone or in combination, fail to disclose or suggest all the limitations of claim 1, a *prima facie* case of obviousness has not

been established in regard thereto. Accordingly, Applicants respectfully request withdrawal of the rejection and submit that claim 1 and claims 2-4 depending therefrom are in condition for allowance and respectfully request same.

Further responsive to the rejection of claim 1 under 35 U.S.C. §103(a) as 5 being unpatentable over U.S. Patent No. 5,644,330 (Catchpole, et al.) in view of U.S. Patent No. 6,388,650 (Maltese), Applicants respectfully submit that that an improper standard of obviousness has been applied.

In rejecting claim 1, the Examiner concedes that Catchpole, et al., do not disclose details about how to construct a voltage selection circuit to control 10 voltages and drive a display device. The Examiner nonetheless finds the display drive circuit of the present invention to be unpatentable by summarily asserting that the voltage selection circuit of Applicants' invention is a "simple circuit that one skilled in the art could have developed." (*Emphasis Provided*).

The fact that a claimed invention is simple or includes a simple component 15 or is within the capabilities of one skilled is not sufficient by itself to establish a *prima facie* case of obviousness. See *MPEP Section 2143.01*. Further, it is well settled that an assertion that one of ordinary skill in the relevant art would have had no difficulty arriving at an invention is an inappropriate standard for obviousness. See *Ex parte Levingood*, 28 USPQ 2d 1300, 1301-02 (Bd. Pat. 20 App. & Inter. 1993). "That which is within the capabilities of one skilled in the art is not synonymous with obviousness." *Id.* (*emphasis added*). Applicants

respectfully submit that it is this improper standard of obviousness that has been applied in the rejection of claim 1.

The Examiner's assertion that the voltage selection circuit is a simple circuit that one skilled in the art could have developed is, in effect, an assertion 5 that one of ordinary skill in the relevant art would have had no difficulty arriving at the invention, and is therefore an improper standard of obviousness under the rationale of *Ex parte Levengood*.

Since an improper standard of obviousness has been applied in rejecting claim 1, a *prima facie* case of obviousness has not been established in regard 10 thereto. Accordingly, Applicants respectfully request withdrawal of the rejection and submit that claim 1 and claims 2-4 depending therefrom are in condition for allowance and respectfully request same.

Moreover, the Examiner asserts in rejecting claim 1 that "Maltese offers an embodiment on how to obtain different voltage levels that anticipates the 15 selection circuit" of the present invention. (*Emphasis Added*). Even assuming *arguendo* that Maltese does disclose an embodiment of how to obtain different voltage levels, Maltese does not disclose or suggest, nor does the Examiner assert that Maltese discloses or suggests, a means for switching between a first and second fixed voltage, a voltage divider that is responsive to a selected one of 20 the first or second fixed voltage, nor means for applying the fixed voltage to the voltage divider to thereby drive the display/pixel with a voltage derived from the

first or second fixed voltage, as recited in part by claim 1. Thus, Maltese does not anticipate nor does it render obvious the subject matter of claim 1.

For the foregoing reasons, Applicants respectfully request withdrawal of the rejection and submit that claim 1 and claims 2-4 depending therefrom are in 5 condition for allowance and respectfully request same.

Claim 5 was rejected "largely on the arguments presented in the rejection of claim 1, with the exception of the switching mechanism". The Examiner deems that a switching mechanism would be needed to turn a voltage source on and off as depicted in Fig. 5 of Catchpole, et al., and that therefore the switching 10 mechanism of the present invention is inherently obvious.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Applicants submit that the cited references, alone or in combination, fail to disclose or suggest all the limitations of claim 5 15 and that therefore *prima facie* case of obviousness has not been established.

Claim 5 recites in part "a switching mechanism . . . operative to output either a first voltage and a second voltage . . . at least one column voltage divider . . . and at least one row voltage divider for each row . . . responsive to the first and second fixed voltages" and "a selection circuit operatively coupled to the switching mechanism that selects one of either the first or second voltages in accordance with a predetermined scheme". (*Emphasis Added*).

As discussed above in regard to claim 1, the cited references fail to disclose or suggest any display drive circuitry. Further, even if Applicants assume *arguendo* that a switching mechanism may be inherently disclosed, the cited references nonetheless fail to disclose or suggest, alone or in combination, 5 column and row voltage dividers that are responsive to a selected one of a first and second fixed voltage, and a selection circuit that is coupled to a switching mechanism providing the fixed voltage, as recited in part by claim 5.

Since the cited references, alone or in combination, fail to disclose or suggest all the limitations of claim 5, a *prima facie* case of obviousness has not 10 been established in regard thereto. Accordingly, Applicants respectfully request withdrawal of the rejection and submit that claim 5 and claims 6-10 depending therefrom are in condition for allowance and respectfully request same.

Claim 11 has been added hereby to further protect the patentable subject matter of the present invention. Claim 11 recites in part "a switching mechanism 15 operatively coupled to the addressing structure, the switching structure being operative to output either of a first fixed voltage and a second fixed voltage, said first fixed voltage and said second fixed voltage being unipolar relative to each other". (*Emphasis Added*). Catchpole, et al., explicitly require that an AC (bipolar) signal be used as the drive signal for the display. Similarly, Maltese 20 applies selection and data voltages that have equal positive and negative (bipolar) peak values (*column 7, lines 25-30*). None of the cited references

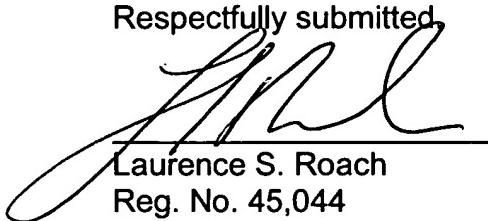
disclose or suggest the use of unipolar first and second fixed voltage from which the row and column voltages are derived. Accordingly, Applicants submit that claim 11 is also in condition for allowance and respectfully request same.

For all the foregoing reasons, Applicants submit that the pending claims 5 are in condition for allowance. Accordingly, Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor.

10 The Examiner is invited to telephone the undersigned with any questions or concerns in regard to this Amendment specifically and/or the above-identified application in general.

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Respectfully submitted,

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